

# Pressure Data in the International COADS (iCOADS)

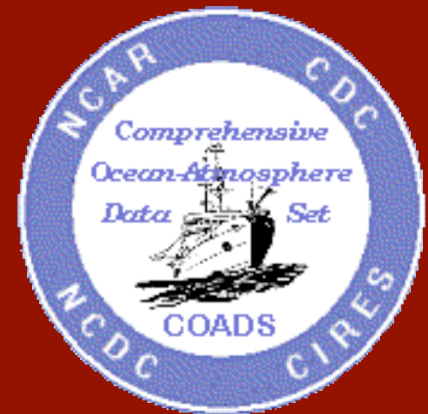
- 1) iCOADS 2.0 ← COADS background
- 2) Data composition--future data enhancements
- 3) SLP data quality + metadata issues

Scott Woodruff (NOAA/CDC)

AOPC/SLP WG meeting

Norwich, UK

20-21 November 2002



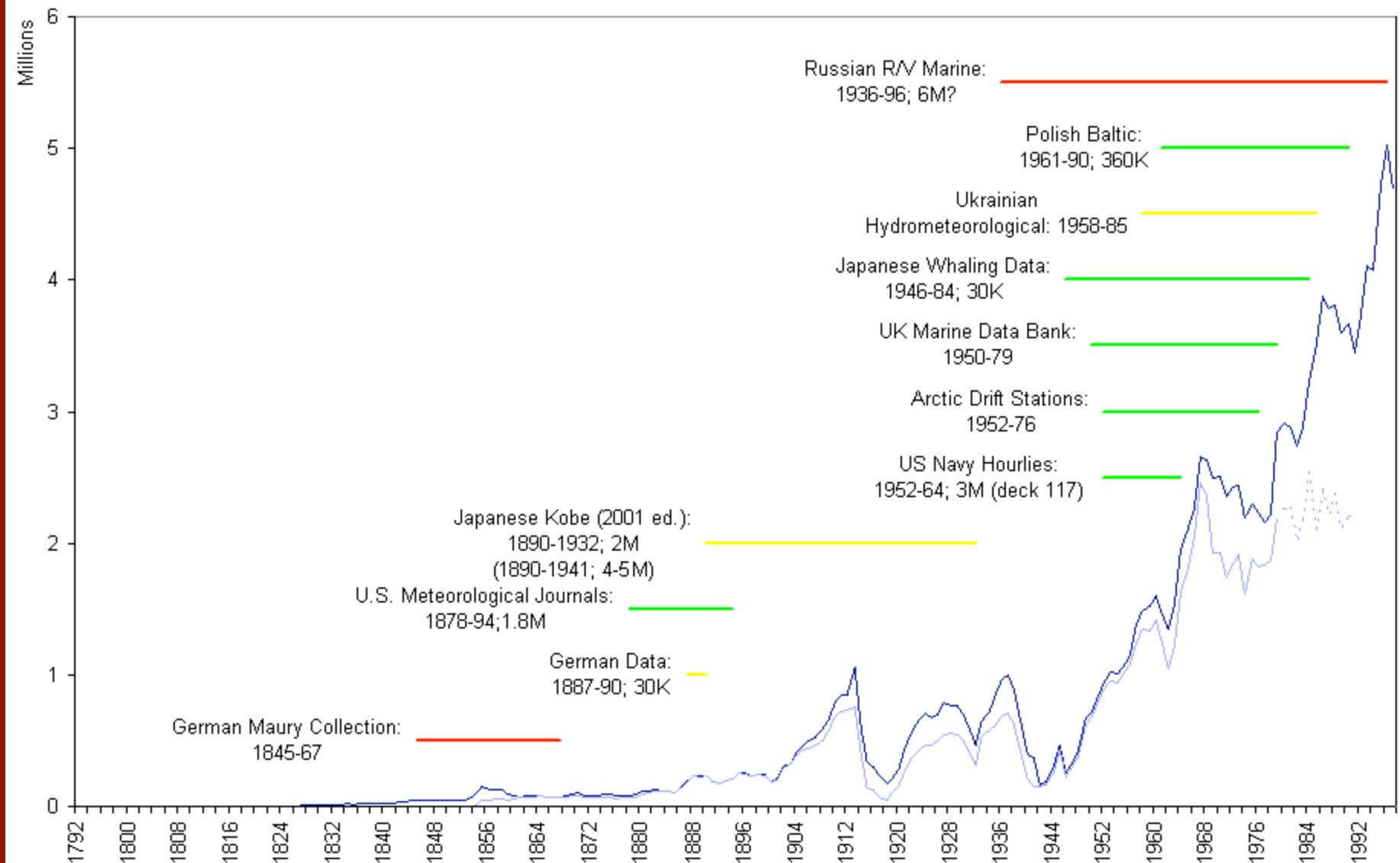
# *International* Comprehensive Ocean-Atmosphere Data Set (iCOADS)

- COADS: project since 1981: NOAA + NCAR
- 1985: Release 1 (1854-1979) (ships and buoys)
- 1993-2001: partial releases  $\Rightarrow$  Release 2.0 (155M)
- 2002: I-COADS agreed: *Boulder Workshop on the Use of Historical Marine Climate Data*

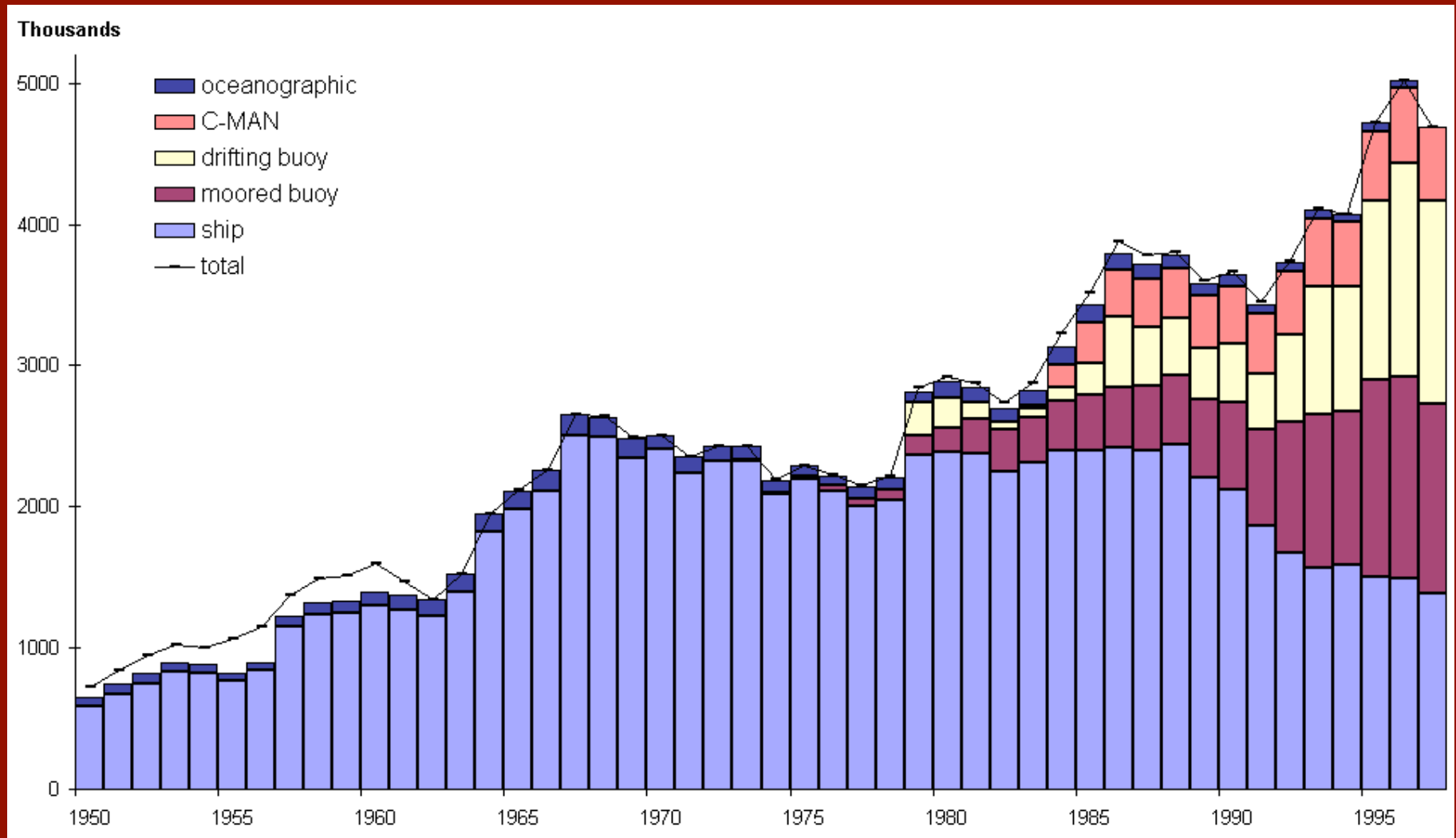
Open and unrestricted data distribution

# Release 2.0 (dark blue) vs. Release 1 (light blue) reports/year

Future blend candidates: red (undigitized), yellow (partly), green (fully)

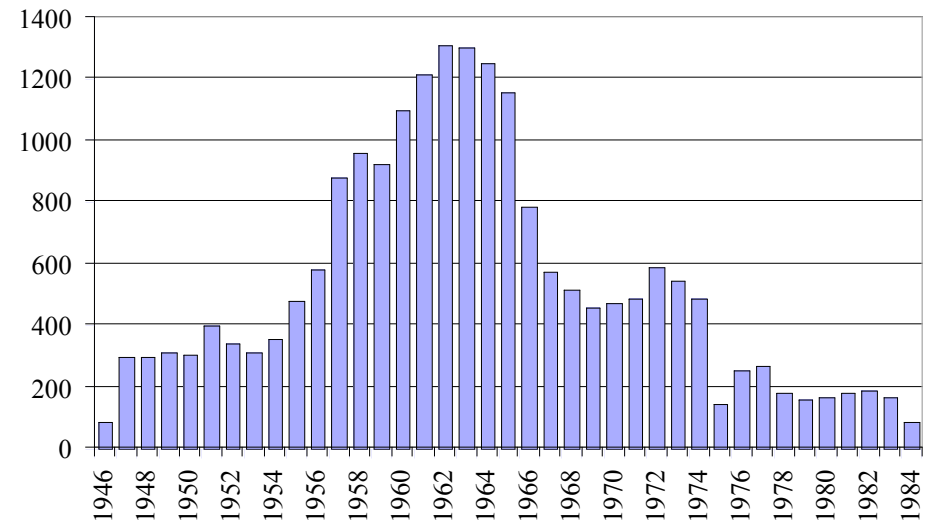


## Mixture of ship/other data: 1950-97

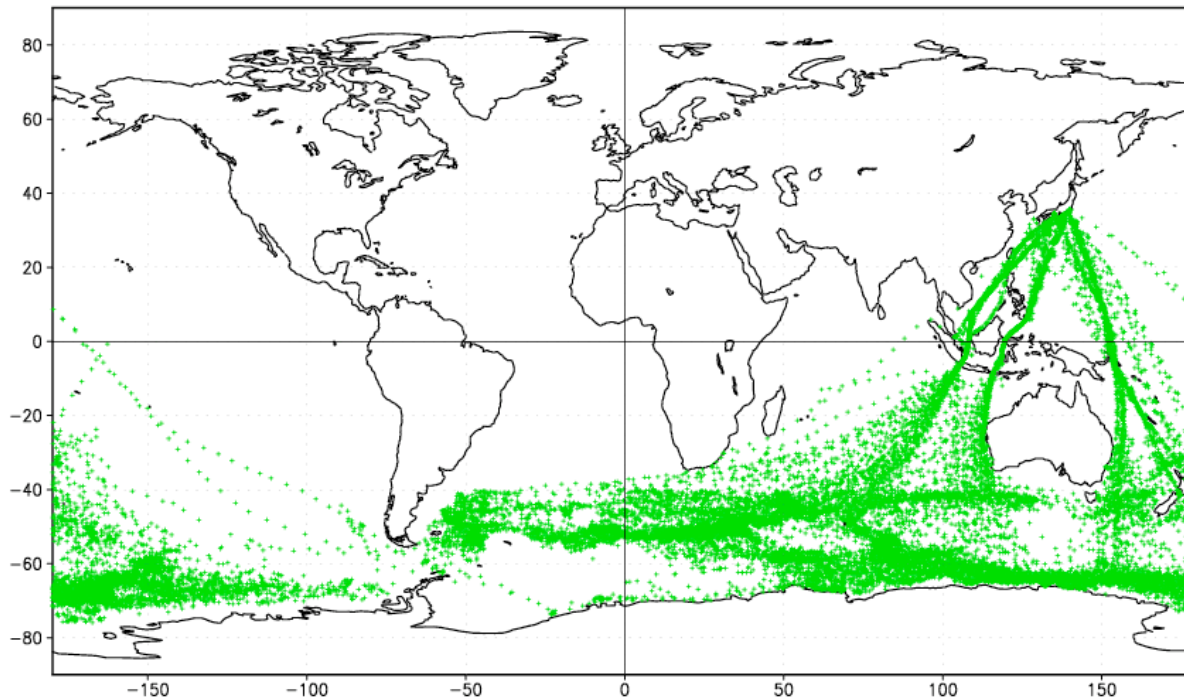


# Japanese Whaling Ships (30K reports)

Japanese Whaling Ships

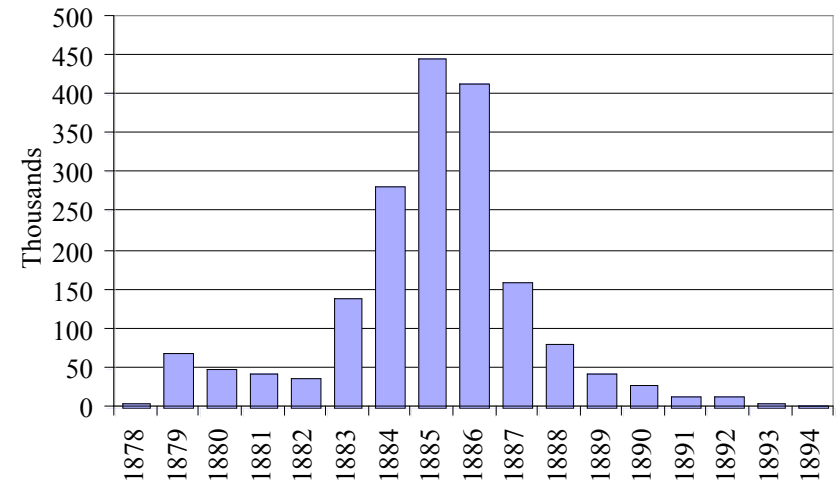


Japanese Whaling Ships 1946–1984

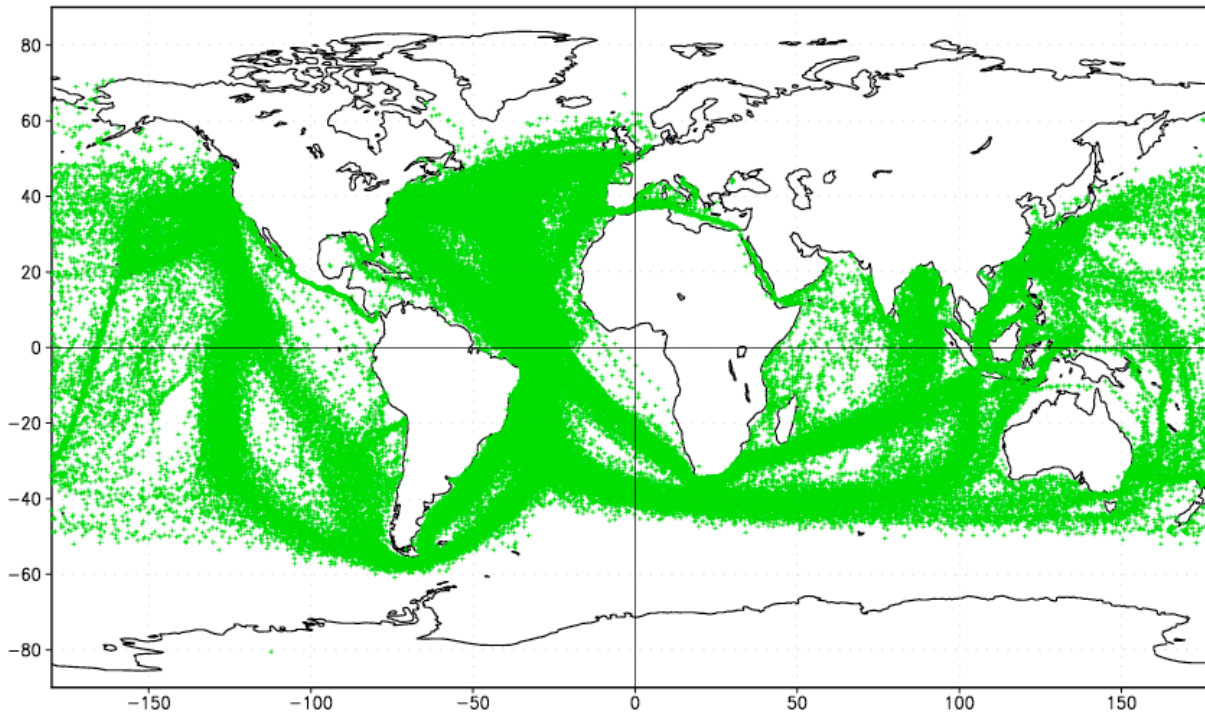


# U.S. Marine Meteorological Journals (1.8 M reports)

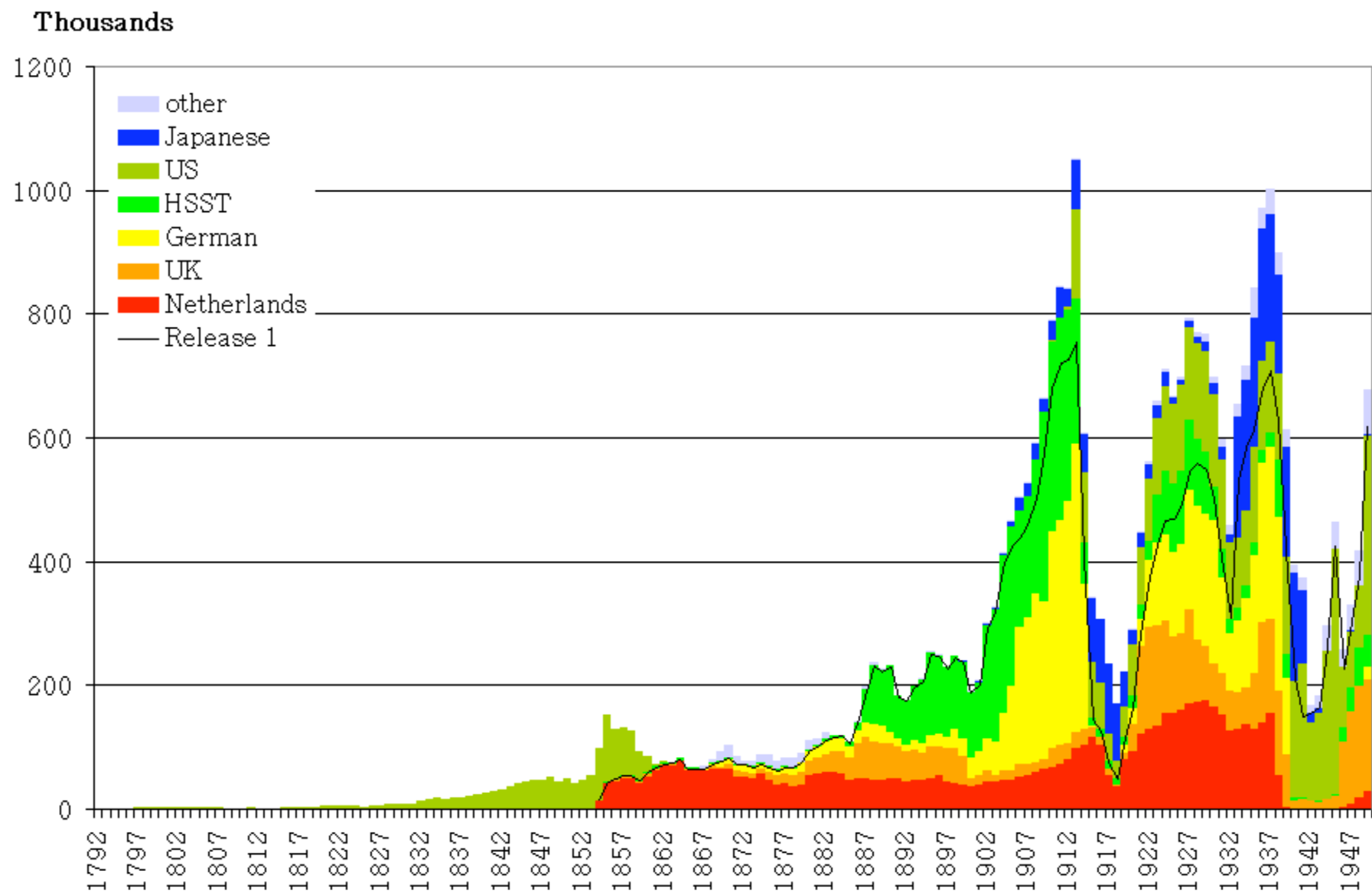
U.S. Marine Meteorological Journals



U.S. Marine Meteorological Journals 1878–1894



# COADS Release 1c





# SST:

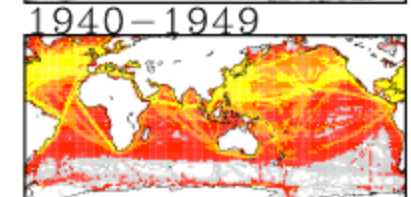
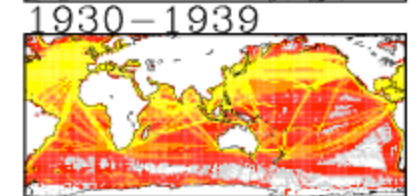
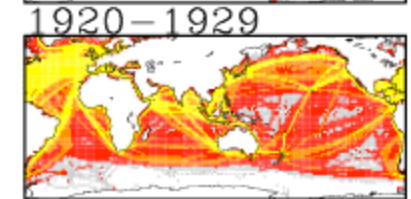
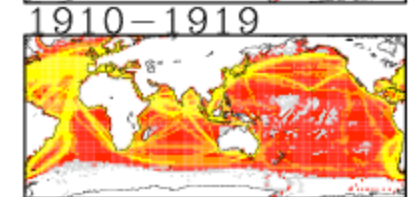
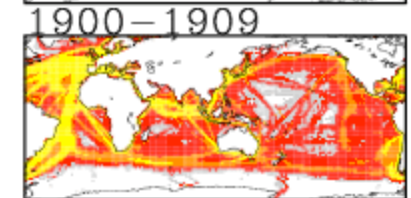
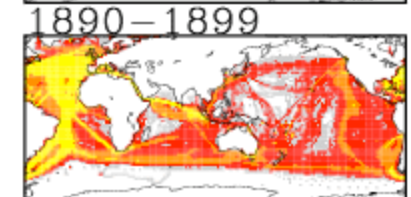
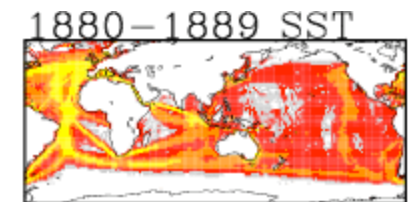
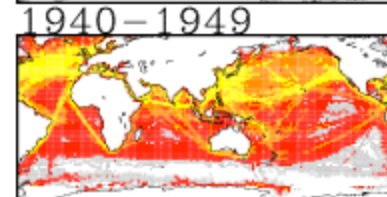
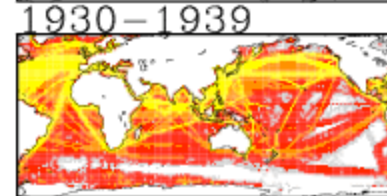
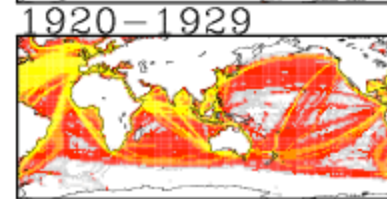
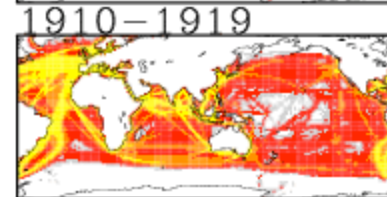
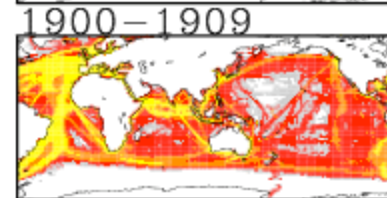
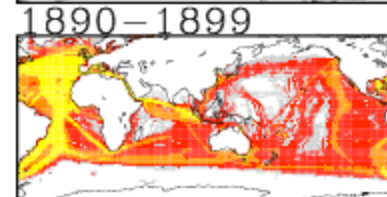
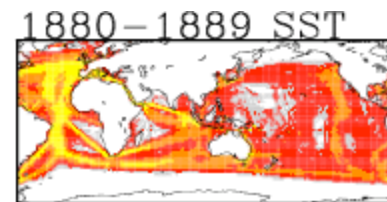
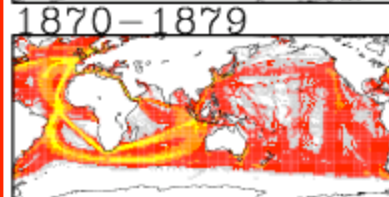
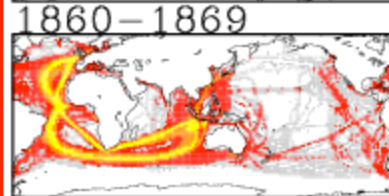
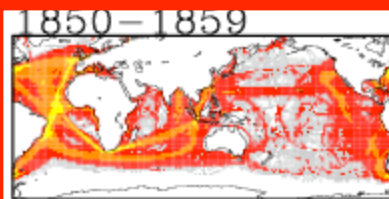
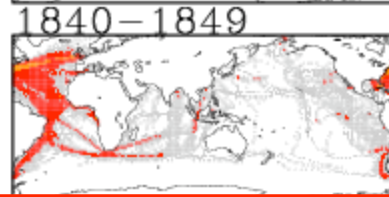
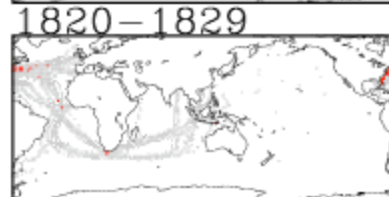
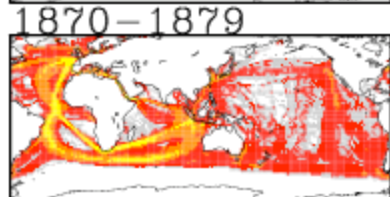
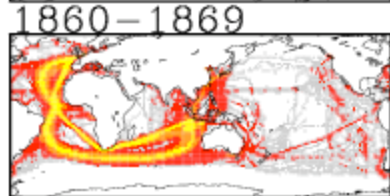
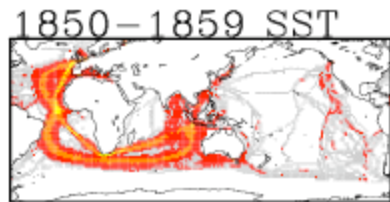
Release 1 (left)

Release 2.0

(right)

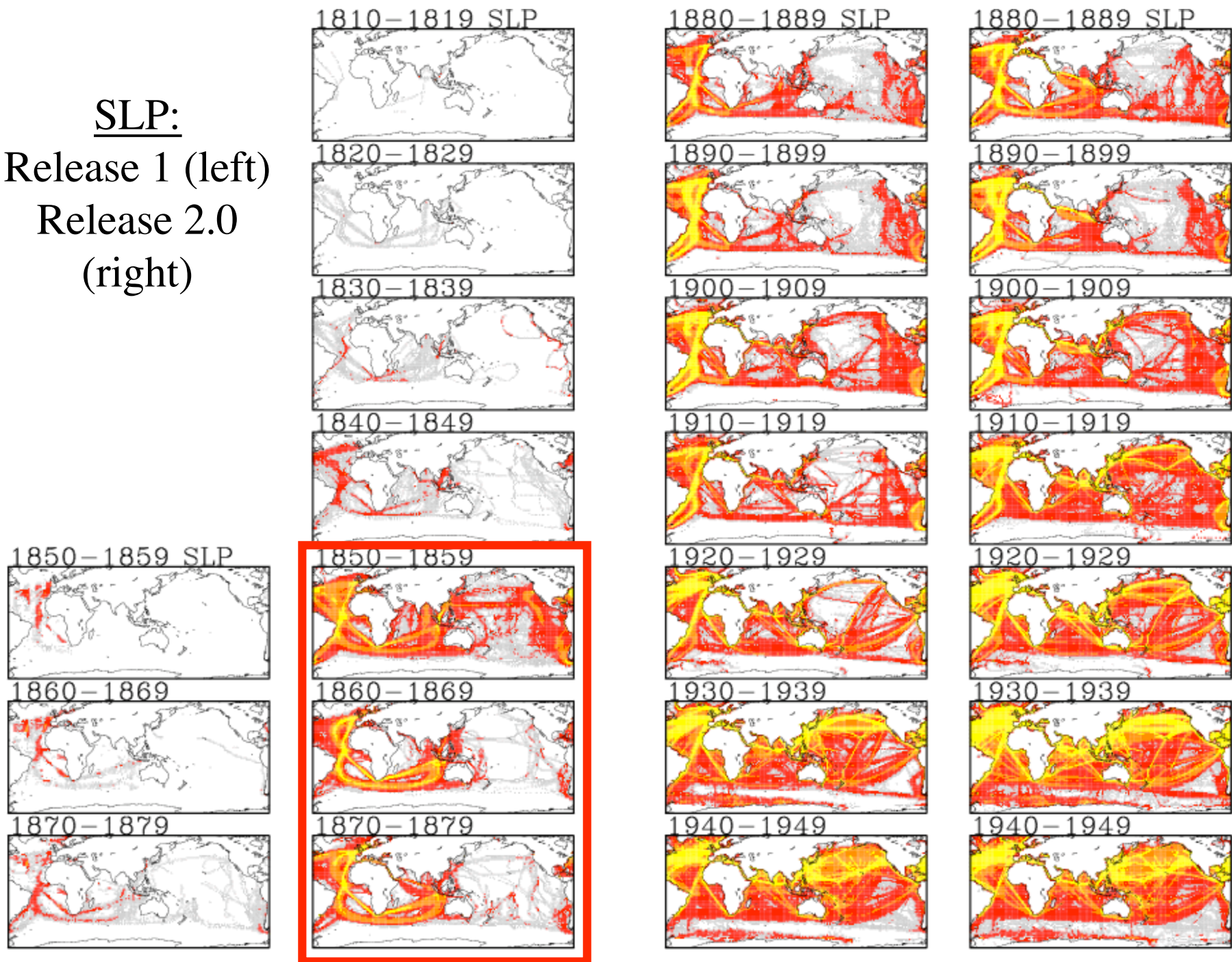
Obs/2° box/decade:

grey	1-9
red	10-99
orange	100-399
yellow	400-

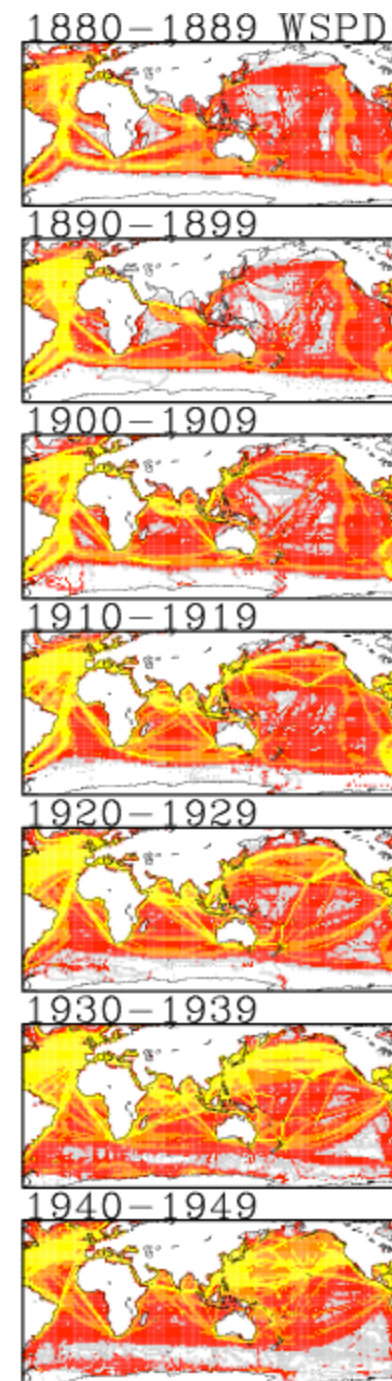
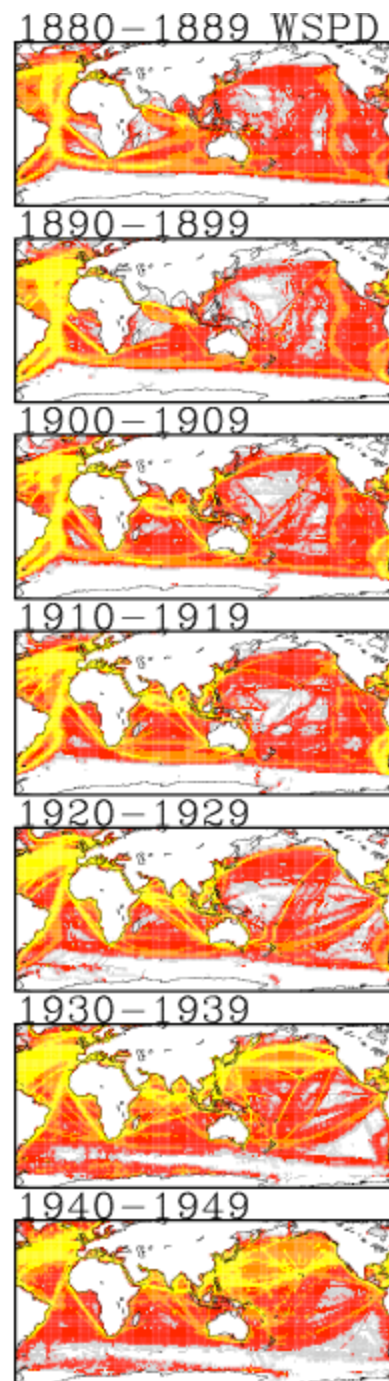
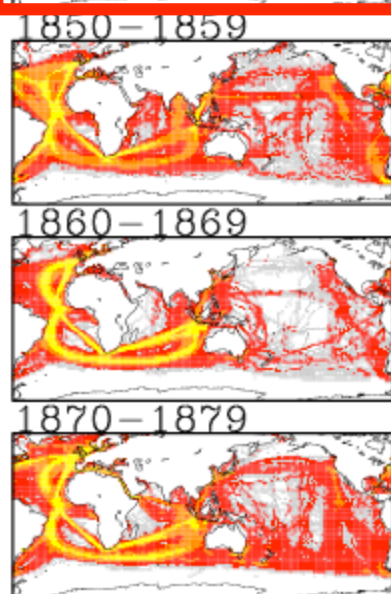
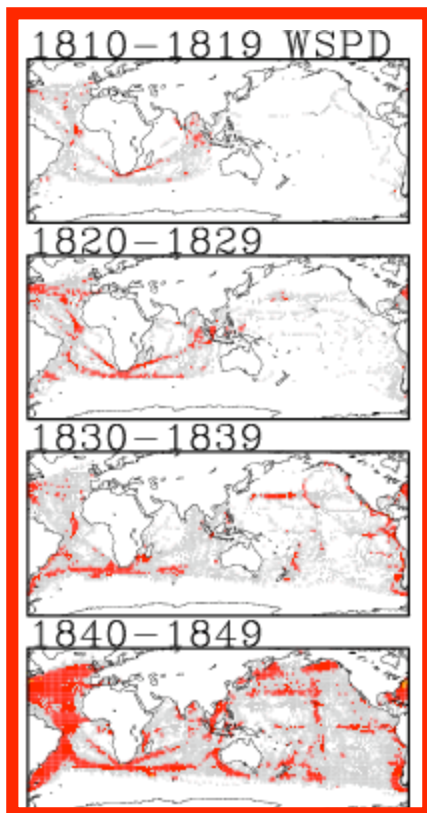
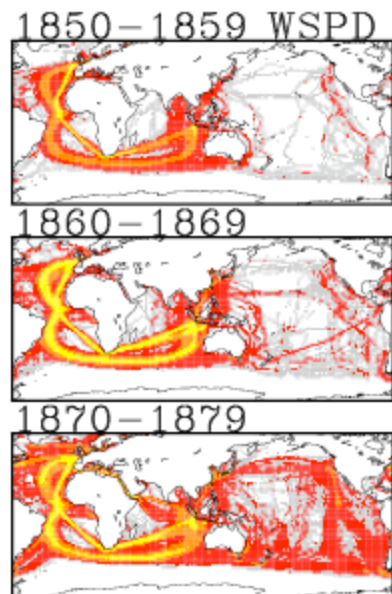




SLP:  
Release 1 (left)  
Release 2.0  
(right)



Wind speed:  
Release 1 (left)  
Release 2.0  
(right)



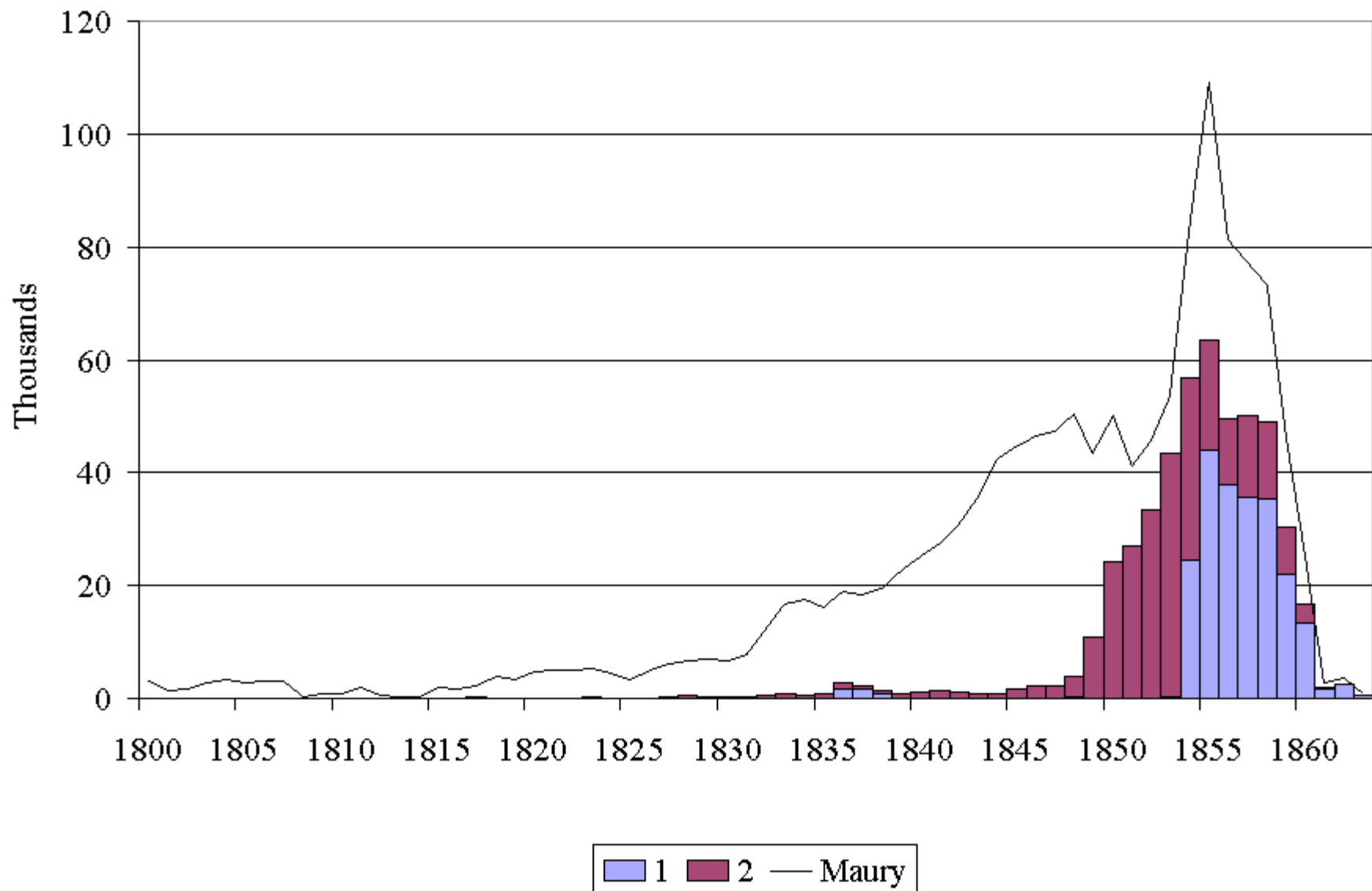


# iCOADS SLP:

## Data Quality + Metadata Issues

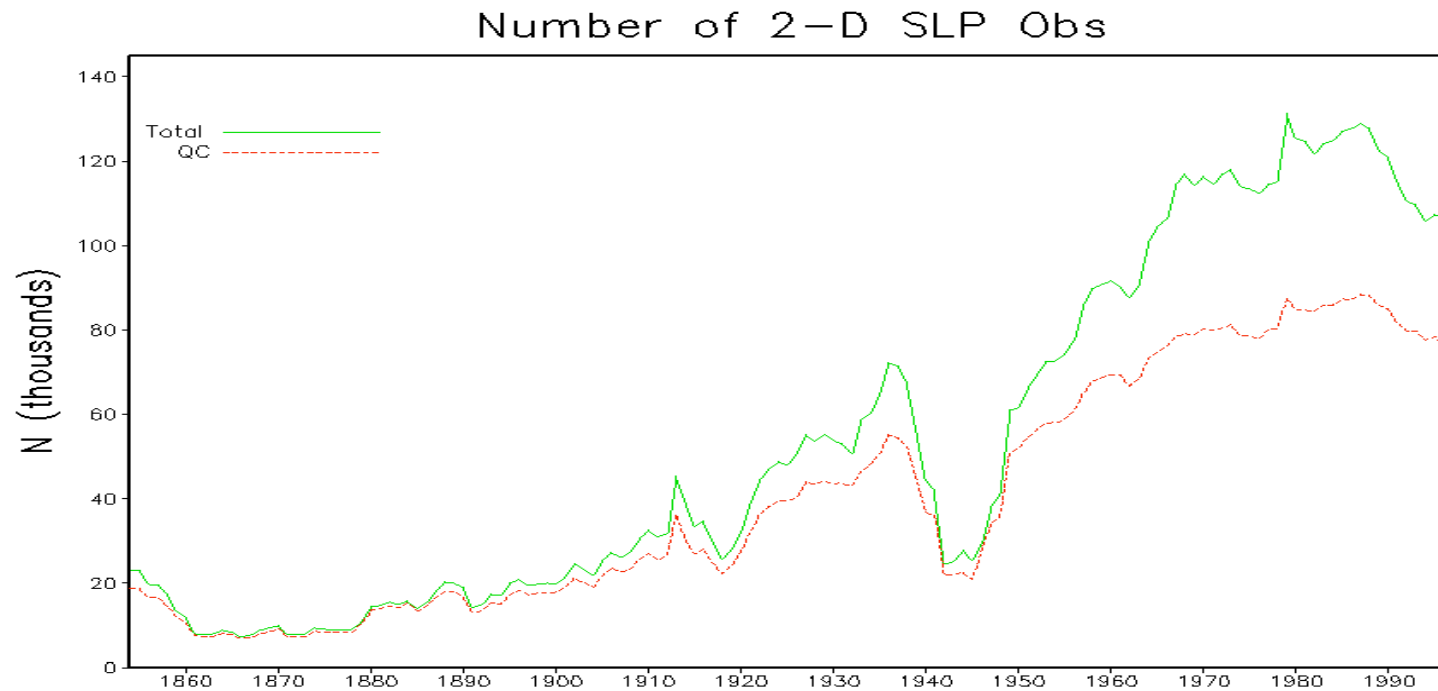
- Ship-buoy data homogeneity, metadata?
- Dutch deck 193 (gravity adj.)
  - HSST undetected dups + biases
- Barometer corrections + reporting practices?
  - New data additions: correction uncertainties:
    - Norwegian (1867-89)?
    - Japanese Kobe (1890-1932)?
  - US Maury Collection (1784-1863): Todd Mitchell
    - Large negative anomalies: 1850s

# Maury Collection (line) and SLP Bias Flags: 2 = gravity 1 = temp + gravity (←Todd Mitchell)



# “ERSLP” (Smith and Reynolds 2002)

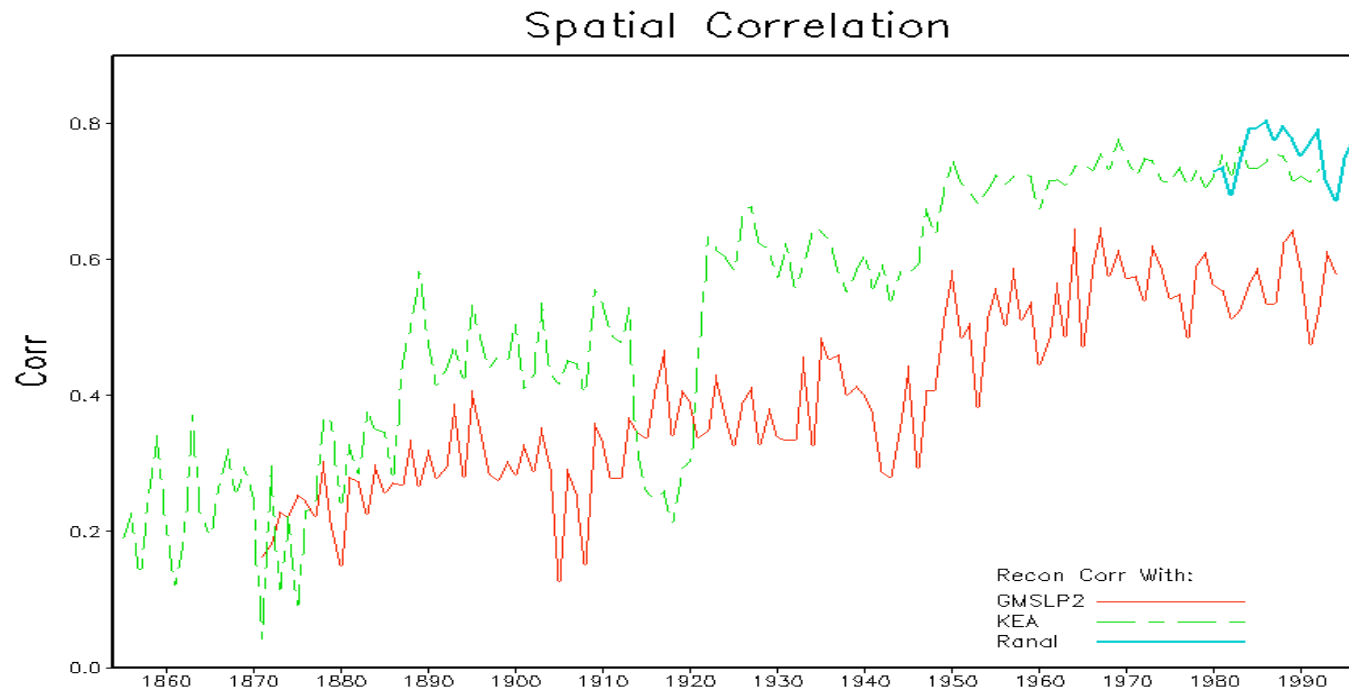
## SLP Quality Control



Number of annual 2-degree super observations: the green line is the total number and the red dashed line is the number after quality control.



# “ERSLP” (Recon) Spatial Correlations



Spatial correlations (between 60S-60N) between the reconstruction and the Met Office analysis (GMSLP2), the Kaplan et al. (2000) analysis (KEA) and the reanalysis of Kalnay et al. (1996, Renal).

# Second WMO Workshop on Advances in Marine Climatology 17-22 Nov. 2003, Brussels

Follow-up: CLIMAR99, Vancouver, 8-15 Sep. 1999

Receive appropriate input: WMO Guide to the  
Applications of Marine Climatology (WMO--No. 781)

Review the requirements of users: marine products,  
climate information, iCOADS

Guidance and technical support: national MS/MCSS

Celebrate 150th Anniversary: 1854 Brussels Conference